ABSTRACT

IMPLANTS FOR TREATING OCULAR HYPERTENSION, METHODS OF USE AND METHODS OF FABRICATION

A stent for treating ocular hypertension by providing means for enhancing outflows of aqueous humor from the anterior chamber. An exemplary stent is fabricated of a shape memory polymer (SMP) that can withstand very large reversible inelastic strains for storing energy in a temporary reduced cross-sectional shape. In one embodiment, the stent in a temporary shape is introduced into a targeted tissue volume in and about the eye's aqueous outflow pathways. Following minimally invasive implantation of the stent, body temperature or another stimulus causes the stent to move from its temporary shape to its memory shape thereby releasing stored energy to retract the tissue to open flow pathways or increase tissue permeability. In another embodiment, the SMP stent body has interior flow passageways to provide addition fluid outflow means. In several embodiments, the stent can be of a shape memory alloy material.